

IN THE CLAIMS

Claims 1-11, 16-18, 23-25, 30, and 32 have been canceled. Claims 12-15, 19-22, and 26-29 have been amended, as follows.

Claims 1 - 11 (Canceled).

12. (Currently Amended) A digital information receiving system ~~according to claim 9~~ including a first unit for receiving and outputting digital information, and a plurality of second units, which are able to be attached to and detached from the first unit to form a daisy-chain connection via the first unit, for receiving the digital information via the daisy-chain connection, applying peculiar processing to the digital information, and sending back processed digital information to the first unit, the system comprising:

a plurality of switching means, each provided to a corresponding one of the second units, for switching so as to incorporate the corresponding second unit into the daisy-chain connection or disconnect the corresponding second unit from the daisy-chain connection;

an abnormality detecting deciding means for detecting and deciding abnormality of the plurality of second units; and

a controlling means for controlling a switching means corresponding to a second unit which is detected and decided to be abnormal so as to disconnect the second unit from the daisy-chain connection, based on a signal from the abnormality detecting deciding means,

wherein the abnormality detecting deciding means includes:

a test signal multiplexing means for multiplexing the digital information

with the test signal before the digital information are passed through the plurality of second units, and

a test signal detecting means for detecting the test signal from the digital information which are passed through the plurality of second units via the daisy-chain connection to decide whether or not the detected test signal is normal.

13. (Currently Amended) A digital information receiving system ~~according to claim 9~~ including a first unit for receiving and outputting digital information, and a plurality of second units, which are able to be attached to and detached from the first unit to form a daisy-chain connection via the first unit, for receiving the digital information via the daisy-chain connection, applying peculiar processing to the digital information, and sending back processed digital information to the first unit, the system comprising:

a plurality of switching means, each provided to a corresponding one of the second units, for switching so as to incorporate the corresponding second unit into the daisy-chain connection or disconnect the corresponding second unit from the daisy-chain connection;

an abnormality detecting deciding means for detecting and deciding abnormality of the plurality of second units; and

a controlling means for controlling a switching means corresponding to a second unit which is detected and decided to be abnormal so as to disconnect the second unit from the daisy-chain connection, based on a signal from the abnormality detecting deciding means,

wherein the abnormality detecting deciding means includes:

a test signal multiplexing means for multiplexing the digital information with the test signal before the digital information are passed through the plurality of second units,

a plurality of test signal processing means, provided to the plurality of second units respectively, for applying a predetermined process to the test signal with which input digital information is multiplexed, [[and]] outputting the processed test signal,

a test signal detecting means for detecting the test signal from the digital information which are passed through the plurality of second units via the daisy-chain connection, and

a deciding means for applying process corresponding to the predetermined process to the test signal detected by the test signal detecting means to decide whether or not the test signal is normal.

14. (Currently Amended) A digital information receiving system ~~according to claim 9~~ including a first unit for receiving and outputting digital information, and a plurality of second units, which are able to be attached to and detached from the first unit to form a daisy-chain connection via the first unit, for receiving the digital information via the daisy-chain connection, applying peculiar processing to the digital information, and sending back processed digital information to the first unit, the system comprising:

a plurality of switching means, each provided to a corresponding one of the second units, for switching so as to incorporate the corresponding second unit into the daisy-chain connection or disconnect the corresponding second unit from the daisy-

chain connection;

an abnormality detecting deciding means for detecting and deciding abnormality of the plurality of second units; and

a controlling means for controlling a switching means corresponding to a second unit which is detected and decided to be abnormal so as to disconnect the second unit from the daisy-chain connection, based on a signal from the abnormality detecting deciding means,

wherein the abnormality detecting deciding means includes:

a test signal multiplexing means for multiplexing the digital information with the test signal before the digital information are passed through the plurality of second units,

a plurality of test signal encoding means, provided to the plurality of second units respectively, for encoding the test signal with which input digital information is multiplexed, [[and]] outputting the encoded test signal,

a test signal detecting means for detecting the test signal from the digital information which are passed through the plurality of second units via the daisy-chain connection, and

a test signal decoding means for decoding the test signal detected by the test signal detecting means and then deciding whether or not the decoded test signal is normal.

15. (Currently Amended) A digital information receiving system ~~according to claim 9~~ including a first unit for receiving and outputting digital information, and a plurality of second units, which are able to be attached to and detached from the first unit to form a daisy-chain connection via the first unit, for receiving the digital

information via the daisy-chain connection, applying peculiar processing to the digital information, and sending back processed digital information to the first unit, the system comprising:

a plurality of switching means, each provided to a corresponding one of the second units, for switching so as to incorporate the corresponding second unit into the daisy-chain connection or disconnect the corresponding second unit from the daisy-chain connection;

an abnormality detecting deciding means for detecting and deciding abnormality of the plurality of second units; and

a controlling means for controlling a switching means corresponding to a second unit which is detected and decided to be abnormal so as to disconnect the second unit from the daisy-chain connection, based on a signal from the abnormality detecting deciding means,

wherein the abnormality detecting deciding means includes:

a test signal encoding means for encoding the test signal,

a test signal multiplexing means for multiplexing the digital information with the encoded test signal before the digital information are passed through the plurality of second units,

a plurality of test signal decoding means, provided to the plurality of second units respectively, for decoding the test signal with which input digital information is multiplexed, [[and]] outputting the decoded test signal, and

a test signal detecting means for detecting the test signal from the digital information which are passed through the plurality of second units via the daisy-chain

connection to decide whether or not the detected test signal is normal.

Claims 16 - 18 (Canceled)

19. (Currently Amended) A digital information receiving system according to claim [[16]] 12, wherein the controlling means controls the plurality of switching means so as to connect the plurality of second units to the first unit one by one, and the abnormality detecting deciding means detects and decides the abnormality of the plurality of the second units one by one. the abnormality detecting deciding means includes:

~~a test signal multiplexing means for multiplexing the digital information with the test signal before the digital information are passed through the plurality of second units, and~~

~~a test signal detecting means for detecting the test signal from the digital information which are passed through the plurality of second units via the daisy-chain connection to decide whether or not the detected test signal is normal.~~

20. (currently amended) A digital information receiving system according to claim [[16]] 13, wherein the controlling means controls the plurality of switching means so as to connect the plurality of second units to the first unit one by one, and the abnormality detecting deciding means detects and decides the abnormality of the plurality of the second units one by one. the abnormality detecting deciding means includes:

~~a test signal multiplexing means for multiplexing the digital information with the test signal before the digital information are passed through the plurality of second units,~~

~~a plurality of test signal processing means provided to the plurality of second~~

~~units respectively, for applying predetermined process to the test signal with which input digital information is multiplexed, and outputting the processed test signal,~~

~~a test signal detecting means for detecting the test signal from the digital information which are passed through the plurality of second units via the daisy-chain connection, and~~

~~a deciding means for applying process corresponding to the predetermined process to the test signal detected by the test signal detecting means to decide whether or not the test signal is normal.~~

21. (Currently Amended) A digital information receiving system according to claim ~~[[16]]~~ 14, wherein the controlling means controls the plurality of switching means so as to connect the plurality of second units to the first unit one by one, and the abnormality detecting deciding means detects and decides the abnormality of the plurality of the second units one by one. ~~the abnormality detecting deciding means includes:~~

~~a test signal multiplexing means for multiplexing the digital information with the test signal before the digital information are passed through the plurality of second units,~~

~~a plurality of test signal encoding means provided to the plurality of second units respectively, for encoding the test signal with which input digital information is multiplexed, and outputting the encoded test signal,~~

~~a test signal detecting means for detecting the test signal from the digital information which are passed through the plurality of second units via the daisy-chain connection, and~~

~~a test signal decoding means for decoding the test signal detected by the test~~

~~signal detecting means and deciding whether or not the decoded test signal is normal.~~

22. (Currently Amended) A digital information receiving system according to claim ~~[[16]]~~ 15, wherein the controlling means controls the plurality of switching means so as to connect the plurality of second units to the first unit one by one, and the abnormality detecting deciding means detects and decides the abnormality of the plurality of the second units one by one. ~~the abnormality detecting deciding means includes:~~

~~a test signal encoding means for encoding the test signal,~~

~~a test signal multiplexing means for multiplexing the digital information with the encoded test signal before the digital information are passed through the plurality of second units,~~

~~a plurality of test signal decoding means provided to the plurality of second units respectively, for decoding the test signal with which input digital information is multiplexed, and outputting the decoded test signal, and~~

~~a test signal detecting means for detecting the test signal from the digital information which are passed through the plurality of second units via the daisy-chain connection to decide whether or not the detected test signal is normal.~~

Claims 23 - 25 (Canceled)

26. (Currently Amended) A digital information receiving system according to ~~claim 23~~ including a first unit for receiving and outputting digital information, and a plurality of second units, which are able to be attached to and detached from the first unit to form a daisy-chain connection via the first unit, for receiving the digital information via the daisy-chain connection, applying peculiar processing to the digital

information, and sending back processed digital information to the first unit, the system comprising:

a plurality of switching means, each provided to a corresponding one of the second units, for switching so as to incorporate the corresponding second unit into the daisy-chain connection or disconnect the corresponding second unit from the daisy-chain connection;

an abnormality detecting deciding means for detecting and deciding abnormality of the plurality of second units, wherein the abnormality detecting deciding means includes a plurality of corresponding abnormality detecting and deciding means, provided to correspond to the plurality of second units, respectively, for detecting and deciding the abnormality of the plurality of the second units respectively; and

a controlling means for controlling a switching means corresponding to a second unit which is detected and decided to be abnormal so as to disconnect the second unit from the daisy-chain connection, based on a signal from the abnormality detecting deciding means,

wherein each of the plurality of corresponding abnormality detecting deciding means includes:

a test signal multiplexing means for multiplexing the digital information to be received by the corresponding second unit with the test signal,

a test signal processing means, provided to the corresponding second unit, for applying a predetermined process to the test signal with which input digital information is multiplexed, [[and]] outputting the processed test signal,

a test signal detecting means for detecting the test signal from the digital

information being output from the corresponding second unit, and

a deciding means for applying process corresponding to the predetermined process to the test signal detected by the test signal detecting means to decide whether or not the test signal is normal.

27. (Currently Amended) A digital information receiving system ~~according to claim 23~~ including a first unit for receiving and outputting digital information, and a plurality of second units, which are able to be attached to and detached from the first unit to form a daisy-chain connection via the first unit, for receiving the digital information via the daisy-chain connection, applying peculiar processing to the digital information, and sending back processed digital information to the first unit, the system comprising:

a plurality of switching means, each provided to a corresponding one of the second units, for switching so as to incorporate the corresponding second unit into the daisy-chain connection or disconnect the corresponding second unit from the daisy-chain connection;

an abnormality detecting deciding means for detecting and deciding abnormality of the plurality of second units, wherein the abnormality detecting deciding means includes a plurality of corresponding abnormality detecting and deciding means, provided to correspond to the plurality of second units, respectively, for detecting and deciding the abnormality of the plurality of the second units respectively; and

a controlling means for controlling a switching means corresponding to a second unit which is detected and decided to be abnormal so as to disconnect the second unit from the daisy-chain connection, based on a signal from the abnormality detecting

deciding means,

wherein each of the plurality of corresponding abnormality detecting deciding means includes:

a test signal multiplexing means for multiplexing the digital information to be received by the corresponding second unit with the test signal,

a test signal encoding means, provided to the corresponding second unit, for encoding the test signal with which input digital information is multiplexed, [[and]] outputting the encoded test signal,

a test signal detecting means for detecting the test signal from the digital information being output from the corresponding second unit, and

a test signal decoding means for decoding the test signal detected by the test signal detecting means and then deciding whether or not the decoded test signal is normal.

28. (Currently Amended) A digital information receiving system according to ~~claim 23~~ including a first unit for receiving and outputting digital information, and a plurality of second units, which are able to be attached to and detached from the first unit to form a daisy-chain connection via the first unit, for receiving the digital information via the daisy-chain connection, applying peculiar processing to the digital information, and sending back processed digital information to the first unit, the system comprising:

a plurality of switching means, each provided to a corresponding one of the second units, for switching so as to incorporate the corresponding second unit into the daisy-chain connection or disconnect the corresponding second unit from the daisy-

chain connection;

an abnormality detecting deciding means for detecting and deciding abnormality of the plurality of second units, wherein the abnormality detecting deciding means includes a plurality of corresponding abnormality detecting and deciding means, provided to correspond to the plurality of second units, respectively, for detecting and deciding the abnormality of the plurality of the second units respectively; and

a controlling means for controlling a switching means corresponding to a second unit which is detected and decided to be abnormal so as to disconnect the second unit from the daisy-chain connection, based on a signal from the abnormality detecting deciding means,

wherein each of the plurality of corresponding abnormality detecting deciding means includes:

a test signal encoding means for encoding the test signal,

a test signal multiplexing means for multiplexing the digital information to be received by the corresponding second unit with the encoded test signal,

a test signal decoding means, provided to the corresponding second unit, for decoding the test signal with which input digital information is multiplexed, [[and]] outputting the decoded test signal, and

a test signal detecting means for detecting the test signal from the digital information being output from the corresponding second unit to decide whether or not the detected test signal is normal.

29. (Currently Amended) A digital information receiving system ~~according to claim 9~~ including a first unit for receiving and outputting digital information, and a

plurality of second units, which are able to be attached to and detached from the first unit to form a daisy-chain connection via the first unit, for receiving the digital information via the daisy-chain connection, applying peculiar processing to the digital information, and sending back processed digital information to the first unit, the system comprising:

a plurality of switching means, each provided to a corresponding one of the second units, for switching so as to incorporate the corresponding second unit into the daisy-chain connection or disconnect the corresponding second unit from the daisy-chain connection;

an abnormality detecting deciding means for detecting and deciding abnormality of the plurality of second units; and

a controlling means for controlling a switching means corresponding to a second unit which is detected and decided to be abnormal so as to disconnect the second unit from the daisy-chain connection ~~wherein the controlling means resets and reset~~ second units succeeding to the second unit, whose abnormality is detected and decided ~~when based on a signal from~~ the abnormality detecting deciding means ~~detects and decides the abnormality.~~

30. (Canceled)

31. (Previously Presented) A digital information receiving system according to claim 12, wherein the test signal multiplexing means multiplexes an invalid portion in each packet of the digital information with the test signal.

32. (Canceled)